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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/725,663      | 12/01/2003  | Radoslav Danilak     | NVID-P001159        | 5113             |

7590 07/13/2006

WAGNER, MURABITO & HAO LLP  
Third Floor  
Two North Market Street  
San Jose, CA 95113

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| EXAMINER |
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LEE, CHUN KUAN

|          |              |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2181

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                      |                |  |
|------------------------------|----------------------|----------------|--|
| <b>Office Action Summary</b> | Application No.      | Applicant(s)   |  |
|                              | 10/725,663           | DANILAK ET AL. |  |
|                              | Examiner             | Art Unit       |  |
|                              | Chun-Kuan (Mike) Lee | 2181           |  |

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,6-8,12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 2-5,9-11 and 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,6-8,12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

*Fritz Fleming*  
**FRITZ FLEMING**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**

#### Attachment(s)

- |  |   |
|--|---|
| <p>1) <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/> Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/> Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
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## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 04/27/2006 have been fully considered but they are not persuasive. Currently, claims 2-5, 9-11 and 14-20 are withdrawn from further consideration and claims 1, 6-8 and 12-13 are pending for examination.

2. In responding to applicant's argument regarding independent claim 1 under 35 U.S.C. 102(b) that Chisholm does not teach the bypass register and that Chisholm's teaching have nothing to do with disk transaction or preparation of disk transaction information, as stated in the second paragraph of page 9 to the first paragraph of page 10. Applicant's argument has fully been considered, but is found not to be persuasive.

Chisholm teaches the transferring of data/command between the host to the storage device (Fig. 1, ref. 114), wherein the storage device can be implemented as a Redundant Array of Inexpensive Drives (RAID) (col. 4, ll. 26-36), wherein it is well known to one skilled in the art that RAID is implemented utilizing a plurality of disk drives. Further more, the transfer of the command issued by the host starts with the writing to two 32-bit registers (Fig. 3, ref. 311 and col. 5, ll. 25-40), wherein the two 32-bit registers are the bypass registers, therefore a disk transaction is implemented without writing to a set of 8-bit registers in the disk controller.

3. In responding to applicant's argument regarding independent claim 1 under 35 U.S.C. 102(b) that Chisholm does not teach the transfer of a command to cause the startup of the disk drive coupled to the disk controller and the subsequent implementation of a disk I/O from the disk controller, as stated in the third paragraph of page 10 to the first paragraph of page 11. Applicant's argument has fully been considered, but is found not to be persuasive.

Chisholm teaches the transfer of a command block from the host side (Fig. 1 and Fig. 3, ref. 110) to the peripheral side (Fig. 1 and Fig. 3, ref. 120), wherein the transfer of the command block comprises the writing of a transfer start signal, causing the startup of the peripheral (i.e. storage device such as the disk drive) coupled to the controller to start transferring a chain of command/data blocks from the host side to the peripheral side, and upon completion of the initial transfer of the first command/data block, subsequent command/data blocks are transfer over to the peripheral side (col. 5, ll. 29-34; col. 6, ll. 3-8 and col. 6, ll. 43-56), then the plurality of command/data blocks would be transferred to the peripheral itself, therefore, implementing the disk I/O from the controller.

4. In responding to applicant's argument regarding independent claim 1 under 35 U.S.C. 102(b) that Chisholm does not teach the start up latency of the disk drive, Chisholm does not teach the benefit of issuing a command to start up a disk drive and subsequently packaging the disk comprising the command for implementing of the disk drive I/O, and Chisholm does not teach the need to hide disk start up latency, as stated

in the first paragraph of page 11. Applicant's argument has fully been considered, but is found not to be persuasive.

Please note that the features upon which applicant rely are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. In responding to all applicant's arguments, examiner reiterates his rejection of claims 1, 6-8 and 12-13.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6-8 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Chisholm et al. (US Patent 5,968,143).

7. As per claims 1 and 8, Chisholm teaches a disk controller and a bridge component for implementing efficient disk I/O for a computer system, comprising:

a bus interface (memory host controller 109 and I/O bridge 111 of Fig. 3) for interfacing with a processor (host processing unit 103 of Fig. 3) and a system memory (host memory 107 of Fig. 3) of the computer system (Fig. 3);

a disk controller (local interface controller 113 of Fig. 1) for executing disk I/O transaction for the computer system, the disk controller further comprising:

a disk I/O engine (data/command block transfer controller 209 of Fig. 3) coupled to the bus interface (Fig. 3); and

a device interface (Fig. 2 ref 217) coupled to the disk I/O engine for interfacing the disk I/O engine with a disk drive (storage device 114 of Fig. 1), wherein the disk I/O engine is configured to cause a start up of the disk drive upon receiving a disk start up command (command transfer start signal) from the processor, the disk I/O engine further configured to execute a disk transaction by processing the disk transaction information (command block 304 of Fig. 3) from a bypass register (register 311 and local memory 203 of Fig 3) coupled to the disk I/O engine (col.5 l. 1 to col. 6, l. 8).

8. As per claim 6, Chisholm teaches the disk controller and the bridge component for implementing efficient disk I/O for a computer system, comprising the disk controller further comprising a CPB pointer buffer (command address queue 309 of Fig 3) coupled to the disk I/O engine for dynamically appending a plurality of CPB pointers (addresses pointing to where the command blocks are stored) to extend to a number of disk transactions scheduled for execution by the disk I/O engine (col.5 l. 1 to col. 6, l. 8).

9. As per claim 7, Chisholm teaches a disk controller and bridge component for implementing efficient disk I/O for a computer system, comprising the disk controller further comprising a chain memory (local command address images 309 of Fig 3,

wherein the addresses are subsequently stored and retrieved in a chain) coupled to the disk I/O engine for buffering a plurality of CPBs to extend to a number of disk transactions scheduled for execution by the disk I/O engine (col.5 l. 1 to col. 6, l. 8).

10. Claims 12-13 repeat the limitations of claims 6-7 and are therefore rejected accordingly.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.K.L.  
07/10/2006

  
FRITZ FLEMING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100  
7/10/2006